LASER-ABLATED JET COOLED ROTATIONAL SPECTRA OF LARGE MOLECULES: TESTOSTERONE AND BARBARALONES

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For most people, the name 17β-Hydroxyandrost-4-en-3-one probably means nothing. When its common name "testosterone" is used instead, one of the most important steroids comes to one's mind. We have vaporized the solid testosterone by laser ablation, and one conformer has been characterized using chirped-pulse Fourier transform microwave LA-CP-FTMW spectroscopy. The detection of such a large biomolecule highlights the actual sensitivity of rotational spectroscopy combined with laser ablation to tackle large molecules with high melting points. To confirm such an improvement, we will also report the results of 1-(4-tert-Butyl)phenyl)tricyclo[3.3.1.$0^{2,8}$]nona-3,6-dien-9-one, a large fluxional molecule that is central to the understanding of the phenomena of valence tautomerism.

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